Setting up Git/AFS for class submissions

These instructions assume the bash shell, running commands on the gl.umbc.edu linux server.

1. Create some shell variables for directories (re-enter before doing steps of these directions after logging in)
   - Class number
   - Full path class-accessible respositories
   - Full path for private copies
   - TA user ID or afs group (if more than one)

```
CLASS=<class-name>
REPO=<full-base-path-for-repositories>
WORK=<full-path-for-private-copies>
TA=<TA-userid>
```

2. Create a text file with all of the students usernames. These should be space-separated or one per line. **Do not include yourself!** Some later directions use this list to restrict permissions. If your userID is in there, you risk losing administration rights to your own directories, which may require sysadmin help to fix!

```
mkdir $REPO
# create list of students in $REPO/students.txt
```

3. Create AFS groups for students.

```
pts creategroup $USER:$CLASS
pts adduser -group $USER:$CLASS -user $(<$REPO/students.txt)
```

4. Create and set permissions for main repository directory (in a publicly accessible location)

```
fs sa -dir $REPO -acl system:anyuser none $USER:$CLASS read $TA write
```

5. Create template repository, and turn off class access.

```
git init --bare $REPO/TEMPLATE.git
find $REPO/TEMPLATE.git -type d -exec fs sa -acl $USER:$CLASS none -dir '{}' +
```

6. Put some initial content into the template

```
mkdir $WORK
cd $WORK
git clone $REPO/TEMPLATE.git
cd TEMPLATE
echo "This is your class submission repository" > README.txt
git add .
git commit -m "Initial commit"
git push --all
```

7. Copy template to rest of students and restrict access

```
cd $REPO
for i in $(<$REPO/students.txt); do \
  git clone --bare TEMPLATE.git $i.git;
  find $i.git -type d -exec fs sa -acl $i write $USER:$CLASS none -dir '{}' +;
done
```

   - check permissions with `fs la`. User and TA should have "write" (`rlidwk`), instructor should have "all" (`rlidwka`), and the class group should not be listed.

8. Adding a new student

```
STUDENT=userID
cd $REPO
pts adduser -user $STUDENT -group $USER:$CLASS
echo $STUDENT >> students.txt
git clone --bare TEMPLATE.git $STUDENT.git
find $STUDENT.git -type d -exec fs sa -acl $STUDENT write $USER:$CLASS none -dir '{}' +
```

9. Checking out all student directories

```
cd $WORK
for i in $REPO/*.git; do git clone $i; done
```

10. Adding new content to the template

```
cd $WORK/TEMPLATE
# sample of content to push
mkdir assn{1,2,3,4,5,6}
touch assn{1,2,3,4,5,6}/.gitignore
# probably would want to add more actual content
git add .
git commit -m "new assignment content"
git push
```

11. Pushing new template content to students

```
cd $WORK
for i in $(<$REPO/students.txt); do
  (cd $i; git pull; git pull ../TEMPLATE master; git push)
done
```